

TECHNICAL REPORT TITLE PAGE

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| Total Cost of Transportation Analysis of Road and Highway Issues | Final Report, July 2002 to September 2003 |
| 5. AUTHOR(S) | 6. PERFORMING ORGANIZATION ADDRESS |
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| 7. ACKNOWLEDGMENT OF COOPERATING ORGANIZATIONS/INDIVIDUALS | |
| 8. ABSTRACT | |
| <p>A prior project, HR-388 (which was entitled <u>Total Cost of Transportation Analysis of Road and Highway Issues</u>), explored the use of total economic cost basis for evaluation of road based transportation issues. It was conducted as a proof-of concept effort between 1996 and 2002, with the final report being presented in May 2002.</p> <p>The basic total cost theory developed and tested in HR-388 was:</p> <ol style="list-style-type: none">That a road 'system' is more than just the roads and bridges. It also includes and consists of vehicles, human resources, supporting facilities, and enabling institutions.The operation of the overall system produces fixed, distance based, and time based costs from the following sources: road network, vehicles, human resources, accidents, business/economic expenses and socio-environmental impacts.The sum of all fixed, distance, and time costs from all sources in the Total Cost of TransportationThe objective of operating and improving the road network is to reduce the distance and time based costs of the total system. <p>Using data from Iowa's county road network, the TCT theory was explored, tested and shown to be both valid and workable. At a final briefing, county engineers requested that the study be re-done using current 2002 data instead of the 1988 data on which HR-388's analyses were built. This was proposed and approved to be performed as TR-477.</p> <p>TR-477 rebuilt the analytical model using current data, then performed general, system level, and road segment level analyses. The results are presented herein and will be distributed to all county engineers for information and local use.</p> <p>Key findings include:</p> <ol style="list-style-type: none">That the county road network is economically appropriate and adequate for the traffic it serves.That current road use and property tax rates are not set high enough to permit the county road system to be completely self-funded.That about \$402 million in level of service upgrades were justifiable in fiscal year 2002.It is possible to obtain consistent results for the entire system, county-by-county, and segment-by-segment. | |
| 9. KEY WORDS | 10. NO. OF PAGES |
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